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III. CLAIM AMENDMENTS

1. (Currently Amended) A method of manipulating a laser source ~~(2)~~, comprising the steps of:

analyzing an optical signal ~~(3, 4, 5)~~ generated by the laser source ~~(2)~~,

evaluating on the basis of the analysis an actual indicator corresponding with an actual value of a tuning velocity of the laser source ~~(2)~~,

comparing the actual indicator ~~(46)~~ with a desired indicator ~~(66)~~ corresponding with a desired value of the tuning velocity to detect a deviation of the actual value of the tuning velocity from the desired value of the tuning velocity, and

compensating the deviation, if any, by manipulating at least one parameter influencing the signal ~~(3, 4, 5)~~ of the laser source ~~(2)~~.

2. (Currently Amended) The method of claim 1, ~~further comprising~~wherein the steps ~~of~~: analyzing the optical signal ~~(3, 4, 5)~~ comprises the steps of~~by~~:

letting a first part ~~(56)~~ of the signal ~~(3, 4, 5)~~ interfere with a second part ~~(58)~~ of the signal ~~(3, 4, 5)~~ resulting in a superimposed signal, with the first part ~~(56)~~ being delayed with respect to the second part ~~(58)~~, and

detecting the power of the superimposed signal.

3. (Currently Amended) The method of claim 2, further comprising the steps of:

evaluating the actual indicator by:

measuring as the actual indicator a frequency ~~(46)~~ of oscillations of the detected power.

4. (Currently Amended) The method of claim 3, further comprising at least one of the steps of:

supplying the desired indicator by using a stored dependency of frequency of oscillations of a detected power of the signal on tuning velocity~~;~~

supplying the desired indicator by generating as the desired indicator a frequency corresponding to the desired tuning velocity;

comparing the actual indicator with a desired indicator by mixing the actual indicator with the desired indicator.

5.-6. (Cancelled)

7. (Currently Amended) The method of claim 1 ~~or any one of the above claims~~, further comprising at least one of the steps of:

tuning the optical signal ~~(3, 4, 5)~~ in wavelength with a tuning velocity greater than zero;

compensating the deviation if any by manipulating as a parameter a length of a cavity ~~(6)~~ of the laser source ~~(2)~~;

compensating a fast deviation, if any, by electro-optically changing an optical path length of the cavity;

compensating a slow deviation if any by mechanically changing an optical path length of the cavity.

8.-9. (Cancelled)

10. (Currently Amended) A software program or product, preferably stored on a data carrier, for executing the method of:

analyzing an optical signal generated by the laser source,

evaluating on the basis of the analysis an actual indicator corresponding with an actual value of a tuning velocity of the laser source,

comparing the actual indicator with a desired indicator corresponding with a desired value of the tuning velocity to detect a deviation of the actual value of the tuning velocity from the desired value of the tuning velocity, and

compensating the deviation, if any, by manipulating at least one parameter influencing the signal of the laser source,

~~claim 1 or any one of the above claims,~~

_____when run on a data processing system such as a computer.

11. (Currently Amended) An apparatus for manipulating a laser source ~~(2)~~, comprising:

an analyzer ~~(30, 48, 48-2)~~ for analyzing an optical signal ~~(3, 4, 5)~~ generated by the laser source ~~(2)~~, evaluating on the basis of the analysis an actual indicator ~~(46)~~ corresponding with an actual value of a tuning velocity of the laser source ~~(2)~~, and comparing the actual indicator with a desired indicator ~~(66)~~ corresponding with a desired value of the tuning velocity to detect a deviation of the actual value of the tuning velocity from the desired value of the tuning velocity, and

a compensator ~~(22, 24)~~ connected to the analyzer ~~(30, 48, 48-2)~~ for compensating the deviation if any by manipulating at least one parameter influencing the signal ~~(3, 4, 5)~~ of the laser source ~~(2)~~.

12. (Currently Amended) The apparatus of claim 11, wherein the analyzer ~~(30, 48, 48-2)~~ further comprises at least one of the features:

an interferometer ~~(30)~~ for letting a first part ~~(56)~~ of the signal ~~(3, 4, 5)~~ interfere with a second part ~~(58)~~ of the signal ~~(3, 4, 5)~~ resulting in a superimposed signal, with the first part ~~(56)~~ being delayed with respect to the second part ~~(58)~~, and a detector ~~(40, 42)~~ for detecting the power of the superimposed signal;

_____a frequency deviation detection unit connected to the detector for measuring as the actual indicator a frequency of oscillations of the detected power;

_____a memory for storing and supplying a dependency of frequency of oscillations of a detected power of the signal on tuning velocity to supply the desired indicator to the analyzer;

_____an electrical signal generator for supplying the desired indicator to the analyzer by generating as the desired indicator a frequency corresponding to the desired tuning velocity;

a mixer for comparing the actual indicator with a desired indicator by mixing the actual indicator with the desired indicator.

13.-16. (Cancelled)

17. (Currently Amended) The apparatus of claim 11 ~~or any one of the above claims, further comprising:~~

~~wherein the compensator (22, 24) further comprises:~~

a manipulator ~~(22, 24)~~ for manipulating as a parameter a length of a cavity ~~(6)~~ of the laser source ~~(2)~~, the manipulator ~~(22, 24)~~ being controlled by the analyzer ~~(30, 48, 48-2)~~.

18. (Currently Amended) The apparatus of claim 17, wherein

~~the~~ the manipulator ~~(22, 24)~~ further comprises~~ing~~:

an electro-optical modulator ~~(22)~~ in the path of the beam in the cavity ~~(6)~~ for compensating a fast deviation if any by electro-optically changing an optical path length of the cavity ~~(6)~~.

19. (Currently Amended) The apparatus of claim 17 ~~or any one of the above claims,~~ further comprising:

a piezo-electric element ~~(24)~~ acting on an cavity end element ~~(10)~~ of the cavity ~~(6)~~ for compensating a slow deviation if any by mechanically changing an optical path length of the cavity ~~(6)~~.